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Visualizing the Universe (Part II)

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It is now possible to create animated views of the universe that are realistic, physically relevant, and breathtaking. To demonstrate the point, we describe our efforts to navigate the CfA redshift survey. For our project, we selected several CCD images of spiral and elliptical galaxies, and placed them at their observed positions in redshift space. We demonstrate how, by choreographing aesthetically pleasing trajectories, we are able to develop our own and the viewer's intuition about the large-scale structures found in the CfA redshift survey. We show for instance that three-dimensional motion enhances significantly our perception of voids and sheets in the distribution of galaxies. Such sophistication happily has become possible with the "coming of age" of observational cosmology, as data have grown to drive the field.